

# Fixing the redundancy quandary: Does redundancy management preserve employee performance in the mining industry?

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**Abstract:** While studies have focused on the subject of redundancy, empirical studies have rarely considered the case of total redundancy characteristic of the mining industry. This is a field where the organization has a fixed lifespan and at some point all functions become redundant. Studies have also concentrated on redundancy as a problem and not on solutions to effectively manage it. The study relies on a case of Base Titanium Ltd, which is a Kenyan subsidiary firm and affiliate of the Base Resources Group, an Australian mineral sands producer. The purpose of the study was to determine the effect of redundancy management on employee performance. A descriptive survey research design was used on a target population of 1,898 staff. A sample of 330 respondents was selected from whom primary data was collected with the help of a questionnaire. Quantitative data were analysed using descriptive (median and mode) and inferential analyses (regression analysis and Spearman rank correlation analysis). The regression analysis results provided evidence that each of the redundancy management variables – Prior Preparation and Training ( $\beta .396 p<.05$ ), Compensation and Incentives ( $\beta .304 p<.05$ ), Communication Strategy ( $\beta .301 p<.05$ ), and Employee Engagement ( $\beta .233 p<.05$ ) – has a positive and statistically significant effect on employee performance.

**Keywords:** Redundancy management; employee performance; communication strategy; compensation and Incentives; employee Engagement; prior training and preparation

## 1. Introduction

Prouska et al. (2023) have described redundancy as a method of dismissing employees from their roles for economic reasons as their roles cease to exist. Redundancy management entails the establishment of systems and structures to ensure smooth implementation of employee separation where their roles cease to exist (Kimbu et al., 2023). There are four major elements that have been featured in literature as key to an effective redundancy management process. These are: communication strategy, compensation and incentives, employee engagement, and prior training and preparation (Hogg & Belavadi, 2017). Communication strategy entails the informational component of the management of the redundancy process and plays a key role in helping stakeholders to understand the reasons behind and the criteria applied to the redundancy process (Stevens, 2022). It is vital to effectively and sensitively manage the communication process to ensure that employees' commitment and morale are not grossly affected. An effective communication strategy should also demonstrate compassion and manage the expectations of employees (Susskind et al., 2018). Simpson (2022) asserts that for situations where the entire organization is expected to become redundant at some point, the role of effective compensation and incentive plans should not be underestimated. Compensation involves packages to encourage voluntary departure arrangements as certain jobs become redundant. A voluntary departure program invites workers to take up early retirements from their job engagements in exchange for a certain compensation package. For that reason, the organization concerned should also work on incentives to ensure that the workforce remains motivated and committed to organizational goals (Cohee, 2019).

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Employee engagement in the redundancy process creates a better understanding of the situation and minimizes the alienation of commitment (Saks & Gruman, 2021). It is paramount to involve and constructively engage employees along with all other affected stakeholders. Low involvement of employees may bring about a feeling of alienation from the business. This may bring forth reduced commitment and performance as employees struggle with low morale, motivation, and faded trust (Taylor & Woodhams, 2022). Engagement is also about enhancing team work so that employees can share responsibilities as roles become redundant. Organizations have also pursued career transition programs where employers try to transfer the employees to other organizations where their skills and competencies would be required (Mujtaba & Senathip, 2020).

According to Taylor and Woodhams (2022), prior preparation and the training of staff is also applied as a strategy that has the potential of making the redundancy process smoother. The preparation and training of staff could take the form of upgrading the skills base of employees, promoting career development that could help employees find new roles, guiding them in life with a view to redundancy including assistance in creating retirement savings (Tantra, 2019). Employers have also pursued training on business development skills for employees who would like to engage in business after their jobs become redundant (Borghouts et al., 2021). Effective career planning and change could also be offered. In addition, organizations have pursued employee counselling as a strategy to prepare them for life after redundancy (Wells, 2019).

### **1.1. Statement of the problem**

Mining companies have fewer options when dealing with redundancies as they operate on a fixed shelf life at which point staff have to be declared redundant (Muigua, 2020). In corporate circles, redundancy is a painful experience for victims and survivors alike. If not well managed, it could offer more losses than gains to the organizations as it could deal a blow to employee morale and increase stress at the workplace (Pius et al., 2020). While studies have focused on redundancies in an organizational setting, a lot of gaps remain unaddressed. Anduuru (2020) assessed the influence of Employee Redundancy on Perceived Job Security among Outsourced Employees. The study established that employee redundancy affects perceived job security. Bergström and Arman (2017) focused on employee involvement, voluntary redundancies and employee commitment after downsizing. The study finds that the way a redundancy process is managed will have a ramification on employee performance. Lane (2010), using a descriptive survey approach, considered the effect of change and redundancy on surviving employees. The findings indicated that change and redundancy influenced the commitment and performance of survivors.

Gaps are evident as the above studies, like most other past studies, rarely considered a case of total redundancy, where there will be no survivors of redundancy. The gaps are conceptual, methodological, contextual, and empirical in nature. Empirical studies have rarely considered the case of total redundancy (Kwamboka & Nassiuma, 2017; Lane, 2010; Nyasha, 2016). In context, studies on management of the redundancy process and likely impact on employees are still rare in the recent period (Bergström & Arman, 2017; Appelbaum et al., 2003; Lane, 2010). Conceptually, most past studies have analyzed redundancy as opposed to redundancy management (Wanjohi, 2007). Empirically, there seems to be overconcentration on organizational performance (Nyasha, 2016). This study considers redundancy management and assesses various elements such as communication, training, incentives and employee engagement.

### **1.2. Purpose of the study**

The general aim of this study was to determine the effect of management of the redundancy process on employee performance.

#### *Specific Research Objectives*

- To determine the effect of communication strategy as a redundancy management practice on employee performance.

- To assess the effect of compensation and incentive plans as a redundancy management practice on employee performance.
- To establish the effect of employee engagement plans as a redundancy management practice on employee performance.
- To determine the effect of prior training and preparation plans as a redundancy management practice on employee performance.

#### *Research questions*

- What effect do communication strategy plans as a redundancy management practice have on employee performance at Base Titanium Ltd?
- How do compensation and incentive plans as a redundancy management practice influence employee performance at Base Titanium Ltd?
- What is the effect of employee engagement as a redundancy management practice on employee performance at Base Titanium Ltd?
- How does prior training and preparation as a redundancy management practice impact employee performance at Base Titanium Ltd?

## **2. Literature review**

### **2.1. Theoretical review**

This study reviews literature on redundancy management and employee performance. The study is anchored upon the Uncertainty Management Theory. Brashers (2001), developed Uncertainty Management Theory (UMT), which essentially provides insights on best practices in managing and preparing for uncertainty. Uncertainty represents situations of scarce information of what is to happen in the future. UMT is established and applied on a premise that uncertainty is neutral: neither positive nor negative. The theorists recommend a well-balanced approach that requires examination of all conditions, involvement of stakeholders, the issues at stake and the desired objectives. This helps in establishing the best methodologies for managing uncertainty (Hogg & Belavadi, 2017). The theory applies to the current assessment as downsizing in the form of redundancy represents an aspect of uncertainty. If not well managed, the theory suggests that redundancy anticipation, as in the case with Base Titanium Ltd, would lead to reduced employee performance. The current study was interested in determining how redundancy can be best accomplished while optimally reducing negative effects associated with it.

### **2.2. Empirical review**

The purpose of the empirical review was to establish what has already been done and therefore identify gaps to be filled in by the current study. Anduuru (2020) assessed the influence of Employee Redundancy on Perceived Job Security among Outsourced Employees at Essential Management Consultancy Services Limited. The study established that employee redundancy affects perceived job security. Gaps are established as the study – like most others – have dwelt on redundancy, i.e., the problem, rather than redundancy management, that is, the solution. The study focuses on redundancy management and employee performance.

Bergström and Arman (2017) focused on employee involvement, voluntary redundancies and employee commitment after downsizing. The study recognized that the way a redundancy process is managed will have a ramification on employee performance. In particular, employee involvement through their representatives, the communication strategies adopted, workforce training and guidance as well as options for voluntary redundancy through early retirements were found to make the process less harsh with the potential of increasing the productivity of survivors. Studies on the management of the redundancy process and its likely impact on employees are still rare as far as Kenya is concerned. This is a gap that will be addressed by targeting the local mining industry with a focus on Base Titanium Ltd.

Kwamboka and Nassiuma (2017) studied employee downsizing strategies and performance outcomes at Unga Milling Company Ltd in Kenya. The study was premised on the Institutional Theory on downsizing. The target population consisted of 436 employees of Unga Milling Companies Limited. Both descriptive and inferential analyses were applied, and results indicated that employee downsizing negatively influenced employee performance outcomes and the study recommended stakeholder engagement through the adoption of the participatory approach. Gaps are clear as studies have rarely considered the case of total redundancy and employees' performance.

Using a descriptive survey approach Lane (2010) considered the effect of change and redundancy on surviving employees. To enhance the comparability of results, the findings indicated that change and redundancy influenced the commitment and performance of survivors. Communication weaknesses were identified as major reasons for demotivation and underperformance. Past studies have concentrated primarily on the problem (redundancy) with only limited attempt to consider how the management of the redundancy process can impact performance. Studies have also rarely considered a case where there will be no survivors of redundancy. The current study filled the gaps by considering these dimensions.

Wanjohi (2007) studied the impact of redundancy on surviving employees at Telkom Kenya Ltd. From a sample size of 100 employees, the study sought to assess the impact of redundancy programs on employees' performance. The results indicated that redundancy programs negatively affected the performance of surviving employees as employees felt that downsizing brought about increased workloads, fear, anxiety, job stress, insecurity and conflicts. Lack of prior preparation and training was identified to be the main reasons for reduced morale among remaining employees. Gaps emerge as the study – like most others – dwells on redundancy rather than the management of redundancy. The current study considered redundancy management and analyzed various elements such as communication, training, incentives and employee engagement.

Using a sample size of 44 employees out of 60, Nyasha (2016) studied the impact of redundancy on organizational performance at Might Stores. Results indicated that redundancy has negative effects on organizational performance. Poor redundancy compensation schemes on casualties largely contributed to demotivating remaining employees. Recommendations for organizations are to consider alternatives to redundancy, which include manpower planning, redeployment, loaning out workforce and pay cuts. Gaps emerge as organizational performance has been widely considered in the analyses of the effects of redundancy. The current study addresses how the management of redundancy would impact individual employees' performance.

### **2.3. Research gaps**

While studies have focused on redundancies in an organizational setting, a lot of gaps remain unaddressed. As foreshadowed above, the gaps are conceptual, methodological, contextual and empirical in nature. In context examined, recent studies on the management of the redundancy process and on its likely impact on employees are still rare. Conceptually, most past studies have analyzed redundancy as opposed to redundancy management (Anduuru, 2020; Wanjohi, 2007; Lane, 2010; Nyasha, 2016). The current study considers how strategies adopted to manage the redundancy process would impact employees' performance. The current study focuses on redundancy management and considers various elements such as communication, training, incentives and employee engagement. Methodologically, studies have rarely considered the case of total redundancy as is the anticipated situation at Base Titanium Ltd (Kwamboka and Nassiuma, 2017). This is a situation where the organization has a fixed lifespan and, at some point, all functions become redundant. The current study discusses how redundancy should be managed in a way that guarantees employees' commitment and performance. Empirically, there seems to be overconcentration on organizational performance (Nyasha, 2016). The current study filled the gap by addressing employee performance (Figure 1).

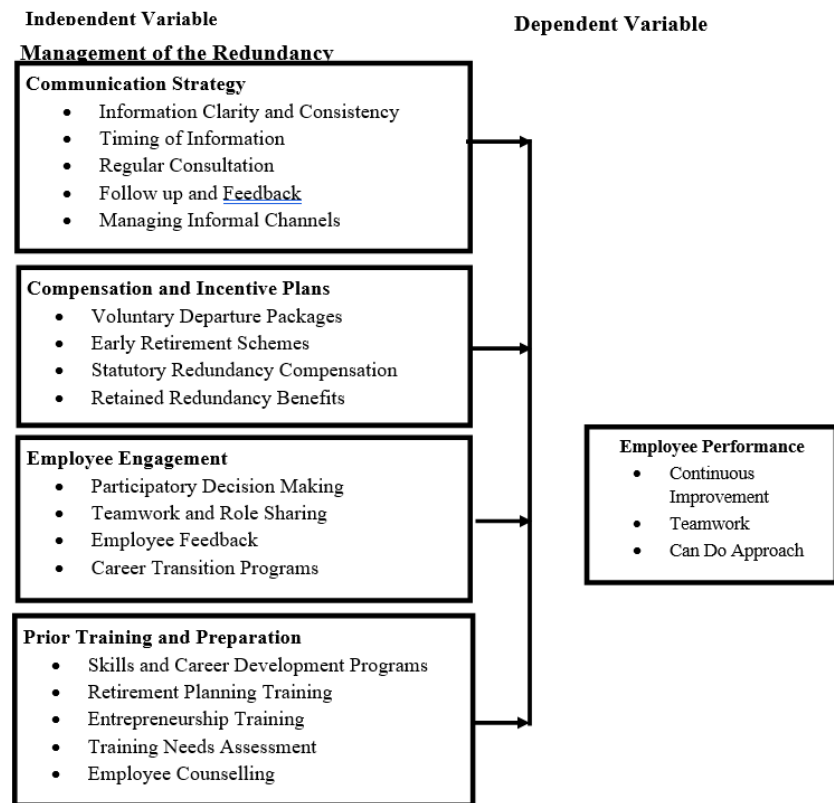


Figure 1. Conceptual framework. *Source: own work*

### 3. Methodology

#### *Research design*

The current study adopted a descriptive survey research design, which is considered useful in the determination of the effect of redundancy management approaches on employee performance. The descriptive survey is appropriate to objectively describe characteristics of a phenomenon being studied (Chawla & Sodhi, 2011). The justification for applying the descriptive survey research design is that the phenomena being studied cannot be manipulated as they involve an already existing state of affairs.

#### *Target population*

The target population of the current study consists of 1898 staff employed at Base Titanium Ltd. The staff are distributed in six levels, which include management, senior professionals, professionals/trade, semi-skilled staff, unskilled staff and outsourced contractors.

#### *Sampling Strategy and Sample Size*

The Trek (2015) formula has been applied to establish a statistically representative sample from the population. The formula is presented as  $n = N / 1 + N(e)^2$ , where:  $n$  = Sample Size,  $N$  = Population Size and  $e$  = Level of Precision at 95 percent Confidence level. The ideal sample size is computed as  $n = 1898 / 1 + 1898(0.05)^2 = 330.37 = 330$  participants. The sample size is therefore made up of 330 participants.

The proportionate stratified random sampling technique has been applied to select a representative sample from each stratum in the target population. The formula applied for the proportionate stratified sampling procedure is then presented as follows:  $S = (Nh/N) * n$ . Where  $S$  = Sample size,  $N$  = Target population,  $Nh$  = Population size for stratum and  $n$  = Total Sample size. To enhance the response rate and in consideration of the prevailing Covid-

19 Pandemic, the questionnaires were distributed through a survey platform to the respondents. Table 1 describes the sample size.

**Table 1. Sample size. Source: Human Resource Department, Base Titanium Ltd (2023)**

Employee Category	Population	Sample size= $nh=(Nh/N)Xn$	Sample size
Management	14	2.43	2
Senior Professionals	31	5.39	5
Professionals	141	24.52	25
Semi-Skilled Workers	492	85.54	86
Unskilled/ General Workers	870	151.26	151
Outsourced Contractors	350	60.85	61
<b>Total</b>	<b>1,898</b>	<b>95</b>	<b>330</b>

*Research Instruments and Procedure*

A structured questionnaire was used in the study. The instrument contained closed questions, which were used mainly with a Likert scale. Data were collected on the various dimensions of the study regarding management of the redundancy process and employee performance. The study administered the questionnaires through a survey platform in observance of Covid-19 protection guidelines. Table 2 clarifies the types of data and measurements.

**Table 2. Types of Data and Measurements. Source: Author's own**

Variable Type	Variable	Indicator (s)	Scale
Independent	Communication Strategy	Information Clarity and Consistency	Ordinal
		Timing of the Information	
		Regular Consultation	
		Follow up and Feedback	
Independent	Compensation and Incentive Plans	Managing Informal Channels	Ordinal
		Voluntary Departure Packages	
		Early Retirement Schemes	
		Statutory Redundancy Compensation	
Independent	Employee Engagement	Retained Redundancy Benefits	Ordinal
		Participatory Decision Making	
		Teamwork and Role Sharing	
		Employee Feedback	
Independent	Prior Training and Preparation	Skills and Career Development Plans	Ordinal

		Retirement Planning Training	
		Entrepreneurship Training	
		Training Needs Assessment	
		Employee Counselling	
Dependent	Employee Performance	Living the Base Way Teamwork Can Do Approach	Ordinal

*Data Analysis and Presentation*

The obtained data were sorted, cleaned and categorised. The data were then coded into the analysis software (SPSS). Quantitative data were analysed with the help of descriptive and inferential analyses. Descriptive statistics comprised of the mode and median. On the other hand, inferential statistics relied on the output of multiple regression analysis and Spearman's rank correlation analysis. Table 3 illustrates the statistical tests for testing the research hypothesis.

**Table 3. Statistical Tests for Research Hypothesis. Source: Author's own**

Hypotheses	Test(s)	Reason
<b>H<sub>A1</sub>: <math>\beta \neq 0</math>:</b> Communication strategy has a statistically significant effect on employee performance.	Multiple regression analysis	Measures relationship between one dependent variable and one or more independent variable(s).
<b>H<sub>A2</sub>: <math>\beta \neq 0</math>:</b> Compensation and incentive plans have a statistically significant effect on employee performance.	Multiple regression analysis	Measures relationship between one dependent variable and one or more independent variable(s).
<b>H<sub>A3</sub>: <math>\beta \neq 0</math>:</b> Employee engagement has a statistically significant effect on employee performance.	Multiple regression analysis	Measures relationship between one dependent variable and one or more independent variable(s).
<b>H<sub>A4</sub>: <math>\beta \neq 0</math>:</b> Prior training and preparation has a statistically significant effect on employee performance.	Multiple regression analysis	Measures relationship between one dependent variable and one or more independent variable(s).

According to Schober et al. (2018), Spearman's rank-order correlation represents the nonparametric equivalent of the Pearson product-moment correlation. The Spearman's correlation coefficient ( $\rho$ , or  $r_s$ ) designates the direction and strength of the relationship between two ranked variables. As explained by Pedregosa et al. (2017), multiple regression analysis is ideal in describing data and providing an explanation to the relationship between one dependent variable and two or more predictor variables. Results of this study will be presented using tables, graphs and figures.

**4. Research results**

**4.1. Reliability and Validity Analysis**

Table 4 presents the results of the Cronbach's Alpha Reliability analysis.



**Table 4. Cronbach's Alpha Reliability. Source: Survey data**

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Employee Performance	.765	.757	3
Communication Strategy	.756	.745	5
Compensation and Incentives	.740	.701	5
Employee Engagement	.701	.772	4
Prior Training and Preparation	.756	.722	6

Based on the results, the Cronbach's Alpha Coefficient stands at 0.765, 0.756, 0.740, 0.701 and 0.756 for Employee Performance, Communication Strategy, Compensation and Incentives, Employee Engagement and Prior Training and Preparation, respectively. The values in all cases represent a high extent of internal consistency of the research instrument. Gliem and Gliem (2003) considers a Cronbach's alpha coefficient of greater or equal to 0.70 as acceptable in social science research. In addition, each scale met Nunnally and Bernstein's (1994) criteria for retention, namely item-to-item correlation coefficients of at least .35, at least three items in the scale and coefficient alpha of at least 0.70 (Nunnally, 1994).

Expert opinion was used in determining and improving the validity of the research instrument. The researcher sought the guidance of a research expert to assist in this. Pre-testing was also used to further assess validity status. The pilot (pre-test) study targeted five randomly selected staff, who helped to determine the extent to which the data provided conforms to the kind of information sought. Some questions were reported to be unclear or ambiguous. The instrument was improved and aligned based on the pretest responses to ensure the instrument's meeting the research objectives.

#### **4.2. Descriptive statistics**

Regarding employee performance, the statistics (mode, which represents the most frequent observation, and median, which represents the middle observation) for all the three indicators show that the level of employee performance at Base Titanium Ltd was generally good. Employees' performance was good in all the specific dimensions of the Base Performance Management Tripod, Living the Base Way (Continually Improving) (Mode 4.0 and Median 4.0), Power of Team (Mode 4.0, Median 3.5) and Can Do Approach (Mode 3.0, Median 3.5).

As statistics (mode and median) showed, communication strategy as a redundancy management practice was largely entrenched at Base Titanium Ltd. It was largely held that Base Titanium Ltd provided clear and consistent information (Mode 4.0, Median 4.0), and conveyed timely information (Mode 4.0, Median 3.5) to stakeholders regarding the impending redundancy process. The results (Mode 4.0, Median 4.0) also showed that the respondents largely opined that the management of Base Titanium Ltd undertook regular consultation with the employee leadership on all emerging matters regarding the anticipated redundancy. It was also largely held that the organization recognized the importance of and makes use of informal communication channels (Mode 4.0, Median 3.5). Nonetheless, results (Mode 3.0, Median 3.0) showed that the organization only moderately undertook regular follow up meetings to receive feedback and to identify new support areas for staff.

The statistics (mode and median) showed that compensation and incentive plans were largely applied in the management of the redundancy process. Results (Mode 4.0, Median 3.5) showed that Base Titanium Ltd had largely established packages to encourage voluntary departure arrangements as certain jobs had become redundant. In addition, as indicated by the statistics (Mode, 4.0, Median 3.5), the organization had largely established a range of early retirement packages from their job engagements. The organization had largely entrenched arrangements to comply with statutory redundancy package offers for exiting employees (Mode 4.0, Median 4.0). Lastly, the statistics (Mode 4.0, Median 3.5) showed that the early



retirement packages were largely well above the statutory redundancy packages to entice voluntary departures as roles became redundant.

It was indicated that employee engagement was largely implemented in managing the anticipated redundancy at Base Titanium Ltd. The results (Mode 4.0, Median 3.5) showed that Base Titanium Ltd had largely adopted a participatory decision-making framework in dealing with the anticipated redundancy of the organization. The statistics (Mode 4.0, Median 4.0) also revealed that the organization largely encouraged teamwork and role sharing as roles became redundant to keep employees engaged. It was further indicated (Mode 4.0, Median 3.5) that the management of Base Titanium Ltd largely acted on feedback received from employees regarding better ways to manage the anticipated redundancy process. Finally, results (Mode 3.0, Median 2.5) indicated that Base Titanium Ltd had only moderately implemented a clear career transitioning program that sought to network and recommend employees new roles in other organizations as their roles became redundant.

Results demonstrate that Base Titanium Ltd had largely implemented prior preparation and training as a redundancy management ideal. Results (Mode 4.0, Median 3.5) demonstrated that Base Titanium Ltd largely organized training forums to upgrade the skills base of employees for easier absorption by other firms after the redundancy process. The statistics (Mode 4.0, Median 3.5) indicated that the firm largely implemented an effective career development program that could help them fit new roles after current jobs became redundant. Further, as shown by the statistics (Mode 4.0, Median 3.5), Base Titanium Ltd largely conducted trainings to offer professional guidance to employees on life after redundancy such as need for retirement planning. The output (Mode 4.0, Median 4.0) indicated that the Human Resource Department regularly carried out training needs assessment with a view to identifying relevant training areas. The organization, however, only moderately equipped employees with entrepreneurial and business development skills to be able to cope with life after redundancy by of way of possibly engaging in business (Mode 3.0, Median 2.5).

### 4.3. Inferential Statistics

#### *Spearman's Rank Correlation Analysis*

The Spearman's Rank Correlation analysis was applied to explain the nature, strength and direction of relationship between each practice applied in the management of the redundancy process and employee performance. Table 5 signposts the results of the Spearman's Rank Correlation Analysis.

**Table 5. Spearman Rank Correlation Analysis. Source: Survey data**

		1	2	3	4	5
1. Communication Strategy	Correlation Coefficient	1.000	-.256	.129	.215	.899**
	Sig. (2-tailed)	.	.697	.370	.134	.032
	N	236	236	236	236	236
2. Compensation and Incentive Plans	Correlation Coefficient	.056	1.000	.136	.156	.566**
	Sig. (2-tailed)	.097	.	.000	.278	.001
	N	236	236	236	236	236
3. Employee Engagement	Correlation Coefficient	.129	.336	1.000	.190	.757**
	Sig. (2-tailed)	.370	.000	.	.187	.020
	N	236	236	236	236	236
4. Prior Preparation and Training	Correlation Coefficient	.215	.156	.190	1.000	.429**
	Sig. (2-tailed)	.134	.278	.187	.	.009
	N	236	236	236	236	236
5. Employee Performance	Correlation Coefficient	.099	.566	.757	.229	1.000
	Sig. (2-tailed)	.192	.000	.000	.109	.
	N	236	236	236	236	236

The Spearman's Rank Correlation Analysis output shows that all the redundancy management practices considered (communication strategy, compensation and incentive plans, employee engagement, and prior preparation and training) have a positive and significant relationship with employee performance. The results support the foundations of uncertainty management theory, which suggests that the management of a process has a ramification on performance (Hogg & Belavadi, 2017). The Spearman's correlation coefficient,  $r_s$  for communication strategy is 0.899, which shows a very strong relationship with employee performance. As the associated P-value ( $p = .032$ ) is lower than 0.05, the relationship is statistically significant. The study agrees with Appelbaum et al. (2003) and Lane (2010), who lay emphasis on communication as a key strategy in managing downsizing or redundancy procedures.

The Spearman's correlation coefficient,  $r_s$  for compensation and incentive plans is 0.566, which shows a strong relationship with employee performance. Since the P-value ( $p = .001$ ) is lower than 0.05, the relationship between compensation and incentive plans and employee performance is statistically significant. The results agree with Nyasha (2016), who established that compensation and incentive plans have a positive relationship with employee performance. The Spearman's correlation coefficient,  $r_s$  for employee engagement plans is 0.757, which shows a strong relationship with employee performance. Since the P-value ( $p = .020$ ) is lower than 0.05, the relationship between employee engagement and employee performance is statistically significant. The results agree with past studies such as Bergström and Arman's (2017) and Kwamboka and Nassiuma's papers (2017), who indicated that employee engagement has a positive relationship with employee performance.

Finally, the Spearman's correlation coefficient,  $r_s$  for prior preparation is 0.429, which shows a moderate relationship with employee performance. Since the P-value ( $p = .009$ ) is lower than 0.05, the relationship between prior preparation and training and employee performance is statistically significant. The results show similarities to Wanjohi's (2007) findings, who indicated that prior preparation and training were positively associated with employee performance.

### Regression Analysis

Regression analysis sought to determine the effect of redundancy management on employee performance. Table 6 presents the model summary output.

**Table 6. Regression Model Summary. Source: Survey data**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.805*	.648	.617	.15432	1.701

Note: \* Predictors: (Constant), Communication Strategy, Compensation and Incentive Plans, Employee Engagement, Prior Preparation and Training

As explained by R Square, the coefficient of determination, 64.80 % of the variation in employee performance (dependent variable) is explained by variability in redundancy management practices at Base Titanium Ltd: communication strategy, compensation and incentive plans, employee engagement, prior preparation, and training. The second output of the multiple regression analysis are the model coefficients as presented in Table 7.

From the regression analysis results, all the redundancy management variables – i.e., communication strategy, compensation and incentive plans, employee engagement, prior preparation and training – are statistically significant determinants of employee performance at the  $p < .05$  level. The model shows all independent variables play a significant part in determining the level of employee performance. The strongest predictor of employee performance is Prior Preparation and Training with a Beta coefficient of .396  $p < .05$ . The independent variable with the second strongest effect on employee performance is compensation and incentives with a Beta coefficient of .304  $p < .05$ . The third strongest predictor is Communication Strategy with a Beta coefficient of .301  $p < .05$ . The variable with the fourth strongest effect on employee performance is employee engagement with a Beta coefficient of .233  $p < .05$ . The results support the foundations of the UMT theory, which

suggests that the management of the redundancy process has an impact on performance (Hogg & Belavadi, 2017). The regression model is developed as:

Employee Performance = 3.102 + 0.988 (Communication Strategy) + 0.785 (Compensation and Incentive Plans) + 0.666 (Employee Engagement) + 0.927 (Prior Preparation and Training).

**Table 7. Regression Model Coefficients. Source: Survey data**

Model (1)	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.102	.075		41.359	.011
Communication Strategy	.988	.315	.301	3.136	.012
Compensation and Incentive Plans	.785	.204	.210	3.846	.020
Employee Engagement	.666	.264	.233	2.523	.041
Prior Preparation and Training	.927	.401	.396	2.324	.015

The coefficient for communication strategy (0.988) has a  $p$ -value of 0.012, which is within the  $p < .05$  level of significance. This indicates that communication strategy is a useful predictor of employee performance. If we look at the results, we see that the study failed to reject the alternative hypothesis  $H_{A1}: \beta \neq 0$ , and concluded that communication strategy has a statistically significant effect on employee performance at Base Titanium Ltd. The statistics further demonstrate that a unit of improvement in communication strategy would result in a 0.988 unit of improvement in employee performance. This study agrees with Appelbaum et al. (2003) and Lane (2010), who lay emphasis on communication as a key strategy in managing downsizing or redundancy procedures arguing that communication strategy has a positive effect on employee performance.

The coefficient for compensation and incentive plans (0.785) has an associated  $p$ -value of 0.020, which is within the  $p < .05$  level of significance. From the results, the study failed to reject the alternative hypothesis  $H_{A2}: \beta \neq 0$ , and concluded that compensation and incentive plans have a statistically significant effect on employee performance at Base Titanium Ltd. The hypothesis was therefore rejected. As such, it was concluded that compensation and incentive plans are a useful predictor of employee performance. Therefore, a unit of improvement in compensation and incentive plans will lead to a 0.785 unit increase in employee performance. The results agree with Nyasha's (2016) findings, who established that compensation and incentive plans have a positive effect on employee performance.

The coefficient for employee engagement (0.666) has an associated  $p$ -value of 0.041, which is within the  $p < .05$  level of significance. From the findings, the study failed to reject the alternative hypothesis  $H_{A3}: \beta \neq 0$ , and observed that employee engagement has a statistically significant effect on employee performance at Base Titanium Ltd. The hypothesis was therefore rejected. This shows that employee engagement is a significant determinant of employee performance. A unit of increase in employee engagement will result in a 0.666 unit of increase in employee performance. The results agree with past studies such as Bergström and Arman's (2017) and Kwamboka & Nassiuma' (2017) research, who indicated that employee engagement has a positive effect on employee performance.

Finally, the coefficient for prior preparation and training (0.927) has an associated  $p$ -value of 0.015, which is within the  $p < .05$  level of significance. From the results, the study failed to reject the alternative hypothesis  $H_{A4}: \beta \neq 0$ , and indicated that prior training and preparation have a statistically significant effect on employee performance at Base Titanium Ltd. The hypothesis was therefore rejected. As such, prior preparation and training are a significant determinant of employee performance. A unit of increase in prior preparation and training will lead to a 0.927 unit of improvement in employee performance. The results are in

agreement with Wanjohi's (2007) findings, who indicated that prior preparation and training have a positive effect on employee performance.

## 5. Summary, Conclusions and Recommendations

The regression analysis results provided evidence that all redundancy management variables – communication strategy, compensation and incentive plans, employee engagement, prior preparation and training – are significant determinants of employee performance, though prior preparation and training were marginally the most important predictor variables. The Spearman's Rank Correlation Analysis output shows that all the redundancy management practices considered (communication strategy, compensation and incentive plans, employee engagement, and prior preparation and training) have a positive and significant relationship with employee performance.

It was concluded, on the basis of regression analysis output, that redundancy management practices – communication strategy, compensation and incentive plans, employee engagement, prior preparation and training – all play a crucial and significant role in determining the level of employee performance at Base Titanium Ltd. The Spearman's Rank Correlation analysis shows that all the redundancy management practices considered (communication strategy, compensation and incentive plans, employee engagement and prior preparation and training) are positively associated with employee performance and as such an enhancement in adoption of redundancy management practices would lead to an increase in the performance of employees. Therefore, the enhancement of all considered redundancy management strategies would serve to positively drive the level of employee performance. On the other hand, a reduction in the implementation of redundancy management strategies would lead to a decline in performance.

In contrast to past studies that considered largely how redundancy influences performance, the current approach deals with redundancy management, which is a relatively fresh area of research. The implication is that the study offers indispensable value to practitioners dealing with redundancy situations and provides insights into how to best manage the process. The study lays emphasis on communication, prior preparation and training, compensation and incentives and employee engagement as redundancy management ideals and justifies investments in these practices.

Recommendations are made based on the unique findings of the study. As all the redundancy management ideals were found to positively impact performance, the study recommends further entrenchment of those practices. Although communication strategy as a redundancy management practice was largely entrenched at Base Titanium Ltd, a recommendation is made to the management: further consideration should be given to holding regular follow-up meetings to receive feedback and to identify new support areas for staff as this was only moderately entrenched at the company. Concerning compensation and incentive plans, the study recommends that management should consider the enhancement of voluntary departure arrangements, early retirement packages, and statutory redundancy packages.

In addition, although employee engagement was largely implemented in managing the anticipated redundancy at Base Titanium Ltd, the study recommends that management explores measures to improve the framework of participatory decision-making in the organisation. The study further recommends that the management should establish a clear career transitioning program that would seek to network and recommend employees to new roles in other organizations as their roles become redundant. This would help in winning employee trust and commitment in their work as they would not have to worry about what tomorrow would bring. Regarding prior preparation and training as a redundancy management ideal, the study established that the organization only moderately equipped employees with entrepreneurial and business development skills for the future after redundancy. As such, the following recommendation is given to management: management should implement more trainings and workshops with a view to helping employees to cope with life after redundancy through possibly engaging in business.

The current study considered redundancy management and considered various elements such as communication, prior preparation and training, compensation and incentives and employee engagement. In addition, past studies have rarely considered the

case of total redundancy as is the anticipated situation at Base Titanium Ltd, which makes the focus of the study quite unique. Total redundancy is a situation where the organization has a fixed lifespan and, at some point, all functions become redundant. Hence, the study delivers valuable empirical evidence to guide decision-making on redundancy management and employee performance. The study underlines the importance of properly managing the redundancy process as presented in the uncertainty management theory (UMT). This theory recommends a well-balanced approach that requires the examination of all conditions, the involvement of stakeholders, the issues at stake and the desired objectives.

The study makes significant contribution to the development of human resource practice and adds to the existing body of knowledge on the management of redundancy processes and employee performance. The study provides an original approach to redundancy research and will benefit scholars and researchers interested in understanding redundancy management. The approach used in the study is unique as most past studies have analyzed redundancy as opposed to redundancy management, which has been the focus of the present study. The current study considered how strategies adopted to manage the redundancy process would impact employees' performance. The findings of the study will benefit not only the management of Base Titanium Ltd but also the entire mining industry across the world. Managements in the mining industry will be guided in making prudent decisions in respect to redundancy decisions.

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